

REMARKS/ARGUMENTS

Claims 1 to 25 are currently pending

Claims 1, 12, 18, 23, and 25 are independent

Claims 14, 21, 23, 24, and 25 are allowed or allowable

Allowed and Allowable Claims

The Applicants thank the Examiner for indicating that Claims 23 to 25 are allowed. Further, the Applicants appreciate the Examiner's indication that Claims 14 and 21 would be allowable if rewritten to overcome "rejections under 35 U.S.C. section 112, second paragraph" and to include all of the limitations of the base claim and any intervening claims. However, the Applicants respectfully note that the Office Action does not include a rejection under 35 U.S.C. section 112, second paragraph and therefore, request clarification.

Objections to the Drawings

Applicants also thank the Examiner for her helpful advice and suggestions provided during the telephonic interview held May 10, 2004 between Examiner Yvonne Quy M Ha and Applicants' representative Steven M. Santisi. A Summary of the Interview is being filed concurrently herewith. The Examiner agreed to withdraw the Objection to the drawings upon Applicants providing written acknowledgement that the references to "frames" in Claims 2 to 11 are to prior art frames whose exemplary structure is detailed and depicted in Applicants' background section in Tables 1 and 2 and in the respective text in paragraphs 0015 to 0026 of Applicants' specification. Applicants hereby provide this acknowledgement and thus respectfully request withdrawal of the Examiner's Drawing Objection.

Objection to the Specification

The Examiner objects to the specification based on an informality, stating that "'infiniband' [is] misspelled on pg 12 of line 65." (Office Action, page 2, lines 11-12). However, Applicants submit that "Infiniband" as it appears in paragraph 0065 is not misspelled as is clear from <http://www.infinibandta.org/specs>. Consequently, the Applicants respectfully request clarification or withdrawal of the objection.

The rejection of claims 1-11 and 18-20 pursuant to 35 U.S.C. section 102(e) as being anticipated by U.S. Patent No. 6,314,100 (Roach) and the Applicants' traversal thereof

Claims 1 to 11 and 18 to 20 stand rejected as anticipated by the Roach patent. Applicants respectfully traverse this rejection. Despite that Examiner's assertion to the contrary, the Roach patent does not disclose "storing a sequential indicator" as recited in Applicants' independent Claim 1.

A "sequential indicator," such as, for example, the "next_sequential" bit output depicted in Applicants' Fig. 3 and described in the associated text of Applicants' specification at paragraph 0048 to 0055, is computed based on data from the current incoming data frame and the previous incoming data frame.

In contrast, the sequence information described in Roach at col. 5, lns. 48 to 58, is merely a description of the fields of a single frame including "a **sequence identifier**, indicating the order of a frame within a particular sequence." (Roach, col. 5, lines 48-53) (emphasis added). Thus, the cited portion of the Roach patent does not disclose storing a bit based on data from the current incoming data frame and the previous incoming data frame, such as "storing a **sequential indicator**," as recited in Claim 1 and described in the Applicants' specification. (Emphasis added).

In other words, Roach does not describe storing any kind of data that in and of itself indicates whether the current frame is in sequence with the previous frame, i.e. Applicants' sequential indicator. Applicants do acknowledge that Roach may describe the data necessary to make such a determination but Applicants also point out that there is no disclosure in Roach of actually storing a result of such a determination as Applicants have claimed. As described in Applicants' specification, Applicants' invention makes beneficial use of the stored sequential indicator in that the latter checking by a processor to determine if the current incoming frame is out of order is unnecessary. (See Applicants specification, para. 0063) The Roach system would necessarily have to perform such a computation at a higher layer and expend valuable processor resources to do so.

The distinction becomes even more evident with regard to Claim 18. Claim 18 recites

a pre-processing block adapted to receive data frames .
. . wherein the pre-processing block is configured to compare a header field of a current frame with a header field of a previous frame and to provide an output signal to the frame processing unit on the basis of the comparison of the header fields of the current and previous frames.

Thus, Applicants determine an output signal (e.g., the next_sequential bit) in a pre-processing block.

In contrast, the Fibre Channel link 400 of the Roach patent (which the Examiner equates to Applicants' pre-processing block) performs no such comparison nor generates any such output signal. On page 4, lines 17 to 20 of the present Office Action, the Examiner appears to mistakenly cite to passages of Roach that disclose higher layer functions of the protocol engine (PENG) 408 and not the Fibre Channel link 400 (See Roach, col. 5, lns. 1 to 10, 16 to 47; Col. 6, lns. 1 to 8). The description of the operation of the Roach PENG 408 makes it clear that the Roach

system does not include the features of Applicants' claims. Such processing is obviated by Applicants' invention as claimed.

More specifically, in rejecting Claim 18 the Examiner asserts that:

Roach discloses apparatus adapted to process incoming data frames, comprising: a pre-processing block adapted to receive data frames (figure 4, reference 400); and . . . the pre-processing block is configured to compare a header field of a current frame with a header field of a previous frame (col. 5, lines 1-10) and to provide an output signal to the frame processing unit on the basis of the comparison of the header fields of the current and previous frames (col. 5, lines 16-47; col. 6, lines 1-8; figures 5&6). (Office Action, pg. 4, ln. 14 to 20).

Thus, the Examiner asserts that the Fibre Channel link 400 of the Roach patent is the pre-processing block of Applicants' Claim 18. However, the Fibre Channel link 400 is not

configured to compare a header field of a current frame with a header field of a previous frame and to provide an output signal to the frame processing unit on the basis of the comparison of the header fields of the current and previous frames. (Applicants' Claim 18)

The portion of the Roach patent cited by the Office Action discloses functions of the protocol engine (PENG) 408, not the Fibre Channel link 400. However, the Office Action states the PENG 408 of the Roach patent is part of the frame processing unit of Claim 18. Consequently, the Roach patent does not disclose

a pre-processing block adapted to receive data frames . . . wherein the pre-processing block is configured to compare a header field of a current frame with a header field of a previous frame and to provide an output signal to the frame processing unit on the basis of the comparison of the header fields of the current and previous frames.

For the above reasons, the Applicants respectfully submit that claims 1 and 18, and claims 2 to 11 and 19 to 20, which

depend therefrom, are not anticipated by the Roach patent. Thus, Applicants respectfully request withdrawal of the Section 102(e) rejection of Claims 1 to 11 and 18 to 20.

The rejection of claims 12-13 and 15-17 pursuant to 35 U.S.C. section 103 as being unpatentable over Roach in view of U.S. Patent Publication No. 2001/0017858 (Kamoi) and the Applicants' traversal thereof

Claims 12, 13, and 15 to 17 stand rejected under Section 103 as unpatentable over the Roach patent in view of the Kamoi publication. Applicants respectfully traverse this rejection.

Independent Claim 12 recites "comparing a header field of a current frame with a header field of a previous frame" and "generating at least one bit based on a result of the comparing step."

The Examiner relies upon the Kamoi publication which appears to describe AAL1 cell formats (Kamoi, page 2, para. 0036). According to the portion of the Kamoi publication cited by the Examiner, "when the SC is odd, the cell is always of a non-P format (not including pointer) and the CSI bit is set to '0'," where SC is a sequence count. (Kamoi, page 2, para. 0040; page 2, para. 0036).

In contrast to the "frames" recited in Claim 12, the Kamoi publication describes "controlling adaptation layer 1 (AAL1) cell bandwidth in asynchronous transfer mode (ATM)" (para. 0002) which is a completely different protocol than Applicants' invention and the processing of which is not analogous to the processing of Fibre Channel frames.

Further, even if AAL1 cells were similar to frames, which they are not, the Kamoi "CSI bit" that the Examiner equates with Applicants' generated bit, is not generated based on "comparing a header field of a current frame with a header field of a previous frame" as Applicants' claims recite. Therefore, the Roach patent

and the Kamoi publication, either alone or in combination, do not teach or suggest generating at least one bit based on "comparing a header field of a current frame with a header field of a previous frame."

Further, the Examiner appears to assert that one would be motivated to apply the pre-processing teachings of Roach in the Kamoi system. This assertion is incorrect for two primary reasons. First, as described above, Roach does not teach pre-processing of frames. Frames are compared and sorted within the PENG of Roach, a higher layer that involves a processor. Second, even if Roach did teach pre-processing, which it does not, the Fibre channel system of Roach would not be operable and could not be implemented in the ATM system of Kamoi. Further, as indicated above, the system of Kamoi is not analogous to the system of Roach.

Consequently, the Applicants respectfully submit that Claim 12, and Claims 13 and 15 to 17, which depend therefrom, are allowable and respectfully request withdrawal of the Section 103 rejection of these claims.

The rejection of claim 22 pursuant to 35 U.S.C. section 103 as being unpatentable over Roach in view of U.S. Patent Publication No. 2001/0048681 (Bilic) and the Applicants' traversal thereof

Claim 22 stands rejected under Section 103 as unpatentable over the Roach patent in view of the Bilic publication. Applicants respectfully traverse the rejection of Claim 22.

In rejecting Claim 22, the Examiner asserts,

Roach discloses all aspects of the claimed invention but failed to teach the frame processing unit includes a master processor and a plurality of second processors managed by the master processor; and selection of processor to process frames. (Office Action, page 6, line 21 to page 7, line 1).

However, the first part of this assertion is incorrect. As described above, the Roach patent does not disclose every feature of Claim 18, from which Claim 22 depends. Further, the Bilic publication does not overcome the deficiencies of the Roach patent. Therefore, the Roach patent and the Bilic publication, either alone or in combination, do not teach or suggest all the features recited in Claims 18 or 22.

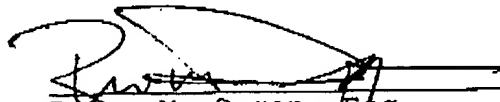
Further, the Examiner acknowledges that the Roach reference does not teach a plurality of processors but also, the Examiner does not even assert that the Bilic publication discloses the use of a plurality of processors. The relied upon passages of Bilic do not disclose this feature of Applicants' invention. Thus, the Examiner has not established a *prima facie* case of obviousness.

Further, the Examiner appears to improperly reuse the same motivation to combine the Roach and Bilic references as was used to combine the Roach and Kamoi references. The Examiner asserts that the Roach "validation of received frames" (i.e. the Roach "pre-processing") involves the host CPU and thus, incorporation of the multiple processors of Bilic would allow the Roach host CPU to offload work. The Examiner's position is inconsistent with her prior assertion that Roach performs "validation" at a layer below the processor, i.e. pre-processing. Based on the Examiner's prior assertions, one of ordinary skill would not be motivated to add multiple processors (Bilic) to Roach because Roach does pre-processing that eliminates the need for more processors. However, as explained above, Roach does not in fact perform pre-processing and Bilic does not disclose multiple processors. Regardless, the Examiner's arguments are untenable and inconsistent. Consequently, the Applicants respectfully submit that Claim 22 is allowable and respectfully request withdrawal of the Section 103 rejection.

Conclusion

The Applicants believe all of the claims are in condition for allowance, and respectfully request reconsideration and allowance of the same. The Applicants do not believe any fees are due regarding this amendment. If any fees are required, however, please charge Deposit Account No. **04-1696**. The Applicants encourage the Examiner to telephone the Applicants' attorney should any issues remain.

Respectfully Submitted,



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